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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,320	10/17/2005	John L. Schenk	XY-Optimum-USNP	6962
33549 7590 07/10/2008 SANTANGELO LAW OFFICES, P.C. 125 SOUTH HOWES, THIRD FLOOR FORT COLLINS, CO 80521			EXAMINER GOUGH, TIFFANY MAUREEN	
			ART UNIT 1657	PAPER NUMBER
			NOTIFICATION DATE 07/10/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/522,320	<b>Applicant(s)</b> SCHENK ET AL.	
	<b>Examiner</b> TIFFANY M. GOUGH	<b>Art Unit</b> 1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date  | 6) <input type="checkbox"/> Other: _____                          |

1/2005, 3/2006, 8/2006, 9/2006, 1/2007, 1/2008, 6/2008.



**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of claims 1-21 in the reply filed on 3/7/2008 is acknowledged. Claims 22-147 have been cancelled by applicant.

Claims 1-21 have been considered on the merits.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is directed to a method of separating sperm cells, however, it is not particularly clear as to what is being separated from what, whether it may be sperm cells from each other or sperm cells from a component of the semen. Claim 15 uses the abbreviations KMT and INRA96. Abbreviations must be spelled out in the first occurrence and may then be followed the abbreviation.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-14,17-21 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 02/41906 A2.

WO'906 teaches a method of separating sperm cells comprising obtaining a semen sample from a male mammal, particularly a bovine or equine mammal (p.9, lines 11-18), incubating the semen sample at temperatures ranging from 5-25°C, particularly 17-19°C (p.3, lines 28-33, all of p.4, p.5, lines 1-5), for a time period between 1-18 hours, determining a characteristic of the sperm cells, such as a sex characteristic, separating and collecting the sperm cells. WO'906 further teaches transporting the

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semen from one location to another during the incubation step, the use of an extender (p. 9, lines 1-33, all of p. 10) and antibacterial (Table 1), staining the sperm cells with Hoechst 33342 (p.11, lines 21-28, p. 15, lines 10—18) and separating the sperm cells using a flow cytometer (p.16, lines 1-15, p.18, lines 30-33, example 2, Table 2, Example 3,4,5).

Thus, the reference anticipates the claimed subject matter.

Claims 1-14, 16-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Schenck (US 7208265).

Schenck teaches a method of separating sperm cells comprising obtaining a semen sample from a male mammal, particularly a bovine or equine mammal (abstract, col.4, lines 5-8)), incubating the semen sample at temperatures ranging from 5-25°C (col.7, lines 59-64, col.8, lines 5-30), for a time period between 1-18 hours (col.10, lines 30-55), determining a characteristic of the sperm cells, such as a sex characteristic, separating and collecting the sperm cells. Schenck further teaches transporting the semen from one location to another during the incubation step (col.10, lines 30-34), the use of an extender (col.5, 6, 7) and antibiotics (col.7, lines 19-20, Example 1), staining the sperm cells with Hoechst 33342 (Example 2,3) and separating the sperm cells using a flow cytometer (examples 2, 3).

Thus, the reference anticipates the claimed subject matter.

Claims 1-14,17-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Bashkin et al (US 2005/0064383).

Bashkin teach a method of separating sperm cells comprising obtaining a semen sample from a male mammal, particularly a bovine or equine mammal (0026), incubating the semen sample at temperatures ranging from 5-25°C, particularly 17-19°C (0010-0013,0046, Examples 2-4), for a time period between 1-18 hours, determining a characteristic of the sperm cells, such as a sex characteristic, separating and collecting the sperm cells. Bashkin further teaches transporting the semen from one location to another during the incubation step (0012), the use of an extender (0027,0030-0031) and antibiotic (Table 1), staining the sperm cells with Hoechst 33342 (0033,0039) and separating the sperm cells using a flow cytometer (0013, example 2, Table 2, Example 3,4,5).

Thus, the reference anticipates the claimed subject matter.

Claims 1-11,16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ericsson (US 4007087).

Ericsson teaches a method of separating sperm cells comprising obtaining a semen sample from a male mammal, particularly a bovine or equine mammal (col.5, lines 25-30), incubating the semen sample at temperatures ranging from 5-25°C (col.8,lines 43-55), for a time period between 1-18 hours (col.8, lines 56-64), determining a characteristic of the sperm cells, i.e. motility characteristic, separating and collecting the sperm cells col. 7,lines 58-66, col. 9, lines 9-14). Ericsson further teaches

transporting the semen from one location to another during the incubation step (col. 4, lines 16-21), the use of an extender (col.6, lines 20-30) .

Thus, the reference anticipates the claimed subject matter.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of WO 02/41906 A2 and Schenck (US 7208265) and Bashkin et al (US 2005/0064383) supported by Padilla et al (Journal of Animal Science, 1991).

As stated above, WO'906 and Schenck teach a method of separating sperm cells comprising obtaining a semen sample from a male mammal, particularly a bovine mammal, incubating the semen sample at temperatures ranging from 5-25°C, particularly 17-19°C, for a time period between 1-18 hours, determining a characteristic of the sperm cells, such as a sex characteristic, separating and collecting the sperm cells. They further teach transporting the semen from one location to another during the incubation step, the use of an extender and antibiotics, staining the sperm cells with Hoechst 33342 and separating the sperm cells using a flow cytometer.

The references do not teach the specific extenders KMT and INRA96. However, they do teach that proper extenders are well known to those skilled in the art and therefore one of skill in the art would choose a proper extender depending on the mammal. KMT and INRA extenders are known in the art to be proper equine extenders, as supported by Padilla, who teach the use of KMT and INRA extenders for stallion semen at about 5°C.

At the time of the claimed invention, it would have been obvious to one of ordinary skill in the art the use a proper semen extender known in the art depending on the mammal.

Moreover, at the time of the claimed invention, one of ordinary skill in the art would have been motivated to have used an equine proper extender with a reasonable expectation for successfully incubating/storing semen at a desired temperature.

Thus, the invention as a whole is prima facie obvious over the prior art.

***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIFFANY M. GOUGH whose telephone number is (571)272-0697. The examiner can normally be reached on M-F 8-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ralph Gitomer/  
Primary Examiner, Art Unit 1657

/Tiffany M Gough/  
Examiner, Art Unit 1657